

Attorney Docket No. P13364
Customer Number 27045

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1-9. (Canceled)

10. (Currently Amended) ~~The method according to claim 7, wherein said step of decoding using modified prediction includes the steps of:~~ A method of processing a compressed video bit stream corresponding to a compressed video signal having a first resolution to provide a video signal having a second resolution lower than the first resolution for use by a display unit having the second resolution, said method comprising:

downscaling the compressed video bit stream, said downscaling step including removing transform components;

decoding the downscaled compressed video bit stream using modified prediction to provide the video signal having the second resolution, said decoding step including the steps of:

scaling a motion vector;

if said motion vector is full-pel, using spline-interpolating filters for scaling motion compensation;

if said motion vector is half-pel and $k=7$, using bilinear blur for scaling motion compensation;

if said motion vector is half-pel in the horizontal and vertical direction and $k=6$, using bilinear blur for scaling motion compensation; and

if said motion vector is half-pel and $k<6$, using 4-tap filters with limited blur for scaling motion compensation, wherein said modified block size is $k*k$, where $k<8$; and

using the video signal having the second resolution to display an image on the display unit at the second resolution.

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11. (Canceled)

12. (Currently Amended) ~~The apparatus of claim 11.~~ An apparatus for decoding a compressed video bit stream corresponding to a compressed video signal having a first resolution to a video signal having a second resolution lower than the first resolution, said apparatus comprising signal processing circuitry that downscales the compressed video bit stream to remove transform components, and, thereafter, decodes the downsampled compressed video bit stream to provide the video signal having the second resolution, wherein said signal processing circuitry further comprises:

means for modifying the block size of the bitstream from a given size to a modified block size smaller than said given size;

means for discarding high frequency components;

means for multiplying the modified block of the bitstream with a modified inverse transform matrix; and

means for using a modified prediction process so as to reduce mismatch degradation.

13. (Previously Presented) A method for decoding a compressed video bit stream corresponding to a compressed video signal having a first resolution to a video signal having a second resolution equal to or higher than the first resolution, said method comprising:

decoding the compressed video bit stream using modified prediction, said decoding step including the steps of:

scaling a motion vector;

if said motion vector is full-pel, using spline-interpolating filters for scaling motion compensation;

if said motion vector is half-pel and $k=7$, using bilinear blur for scaling motion compensation;

if said motion vector is half-pel in the horizontal and vertical direction and $k=6$, using bilinear blur for scaling motion compensation; and

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if said motion vector is half-pel and $k < 6$, using 4-tap filters with limited blur for scaling motion compensation; and

using said video signal to display an image on a portion of a display unit having said second resolution.

14. (Original) The method according to claim 13, wherein said bit stream uses blocks of a given size, and wherein said decoding step is provided a bit stream having a modified block size smaller than said given size.

15. (Original) The method according to claim 14, wherein said given block size is 8×8 DCT and wherein said modified block size is $k \times k$, where $k < 8$.

16-17. (Canceled)

18. (Currently Amended) An apparatus for decoding a compressed video bit stream corresponding to a compressed video signal having a first resolution to a video signal having a second resolution equal to or higher than the first resolution, said apparatus comprising signal processing circuitry that decodes the compressed video bit stream to provide the video signal to a display unit, said signal processing circuitry comprising:

means for modifying the block size of the bitstream;

means for discarding high frequency ~~discrete cosine transform~~ components;

means for multiplying the modified block of the bitstream with a modified inverse transform matrix; and

means for using a modified prediction process so as to reduce mismatch degradation.

19-27. (Canceled)

28. (Previously Presented) The method of claim 13 wherein MPEG video format provides at least one of the first resolution and the second resolution.

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29. (Previously Presented) The method of claim 13 wherein PGA video format provides at least one of the first resolution and the second resolution.

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